Handouts: copy of the POR TEPPL; copy of complete POR package.

Received 582 PORs in the last year
Division 13 sent in the most pors – 128; Div 11 2nd with 92

Audience participation:

There are 3 possible answers to each question:

1) New plan
2) Plan of record
3) No plan needed

Cabinet is located in a different quadrant – plan of record
6x60 loop is replaced with a 6x40 quadrupole loop – plan of record
Time before reduction is increased – no plan needed
Right turn overlap is added – new plan
Change from 5-phase to 2-phase – new plan
Change max time – no plan needed
Change min time – no plan needed
Upgrade from 8" to 12" heads – plan of record
Upgrade to LEDs – no plan needed
Upgrade from pretimed to semi-actuated – new plan needed
Replace Tee head with 3-section all arrow head – plan of record
Change delay on a loop from 15 seconds to 20 seconds – no plan needed
Revise FYA head from flashing red to flashing yellow during flashing operation – plan of record
Change from stretch detection to volume density – new plan
Upgrade from NEMA controller/cabinet to 2070 – plan of record
Change in speed limit – new plan
Change in clearance times – new plan
Upgrade to countdown ped heads – plan of record
Change from 5-phase to 8-phase – new plan
Move stop bars further back from their original plan location – new plan
Move stop bars closer to intersection from original plan – plan of record
Remove backplates that were shown on original plan – plan of record

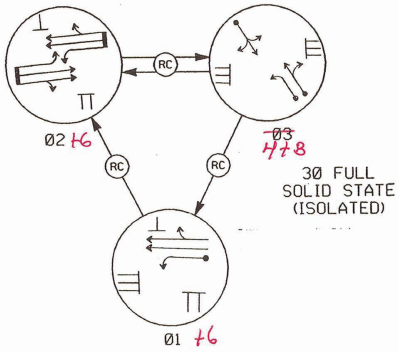
If you're not sure, call your regional signals engineer or Buddy Murr.

Here are some of the issues we run into:

Lanes don't match
Marked up signal plan not sent in even though there have been changes
Need speed limits
Street names and SRs have changed
Stretch time in quarter seconds rather than tenths for 2070 plans
Mark up the correct plan, sometimes we get an older version even though the newer one is installed
Conflicting information
Complete and correct loop info
Label loops
Loop information on the signal plan contradicts the information on the electrical details
No info on backup protection
Make sure it's legible

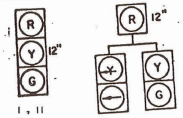
STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
N.C.	6.327014	SIG. 1	1
F. A. PROJ. NO.			

PHASING DIAGRAM



30 FULL SOLID STATE (ISOLATED)

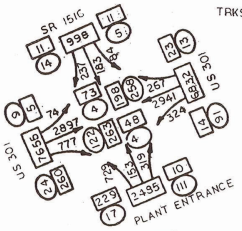
SIGNAL FACE I.D.



A.D.T. COUNT

PEAK HOUR ☐ A.M. ☐ P.M.

TRKS 325



LEGEND

PROPOSED		EXISTING
	TRAFFIC SIGNAL FACE	
N/A	MODIFIED TRAFFIC SIGNAL FACE	
	PEDESTRIAN SIGNAL FACE WITH PUSH BUTTON & SIGN	
	SIGNAL POLE WITH GUY	
	SIGNAL POLE WITH SIDEWALK GUY	
	INDUCTIVE LOOP DETECTOR	
	CONTROLLER & CABINET	
	LOOP DETECTOR PULL BOX	
	2" UNDERGROUND PVC	
	INTERCONNECT CABLE (HARDWIRE)	
	RIGHT OF WAY WITH MARKER	
(A)	YIELD SIGN (R1-2)	

NOTES

1. NEW INSTALLATION
2. NEW POLES TO BE LOCATED AS SHOWN ON PLANS.
3. CABINET SHOULD BE PLACED SO AS NOT TO OBSTRUCT SIGHT DISTANCE OF VEHICLES TURNING RIGHT ON RED.
4. CONTROLLER SHOULD BE PROGRAMED TO START UP IN PHASE 2. 16
5. ALL UNDERGROUND UTILITIES AND CULVERTS SHOULD BE LOCATED PRIOR TO POLE DRILLING AND CONDUIT TRENCHING.
6. OMIT Ø1 DURING Ø2 GREEN.
7. ~~SIGNAL TO FLASH FROM 11:00 PM TO 6:00 AM UNLESS OTHERWISE DIRECTED BY AREA TRAFFIC ENGINEER.~~

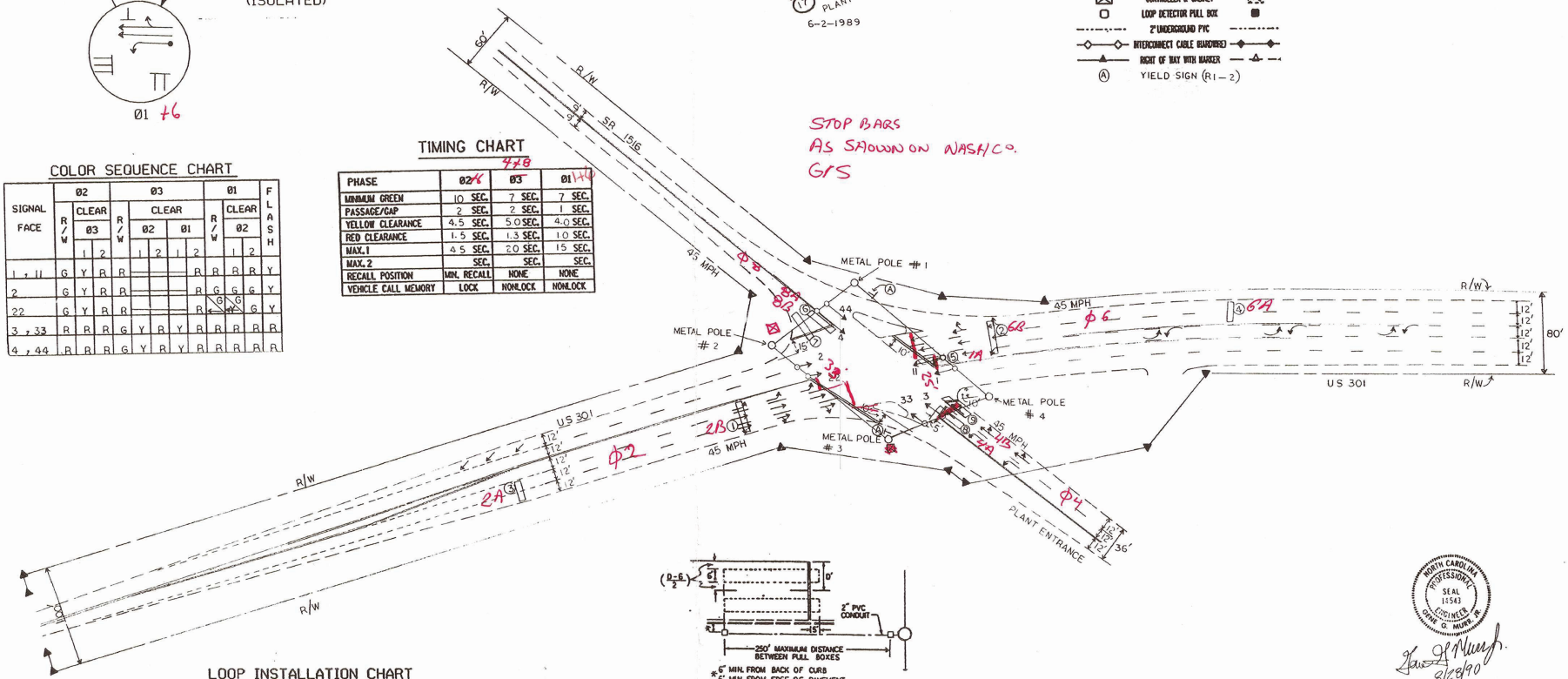
COLOR SEQUENCE CHART

SIGNAL FACE	Ø2 R/W	Ø2 CLEAR Ø3 1	Ø2 CLEAR Ø3 2	Ø3 R/W	Ø3 CLEAR Ø2 1	Ø3 CLEAR Ø2 2	Ø3 CLEAR Ø1 1	Ø3 CLEAR Ø1 2	Ø1 R/W	Ø1 CLEAR Ø2 1	Ø1 CLEAR Ø2 2	FLASH
1 , 11	G	Y	R	R	—	—	—	R	R	R	R	Y
2	G	Y	R	R	—	—	—	R	G	G	G	Y
22	G	Y	R	R	—	—	—	R	G	G	G	Y
3 , 33	R	R	R	G	Y	R	Y	R	R	R	R	R
4 , 44	R	R	R	G	Y	R	Y	R	R	R	R	R

TIMING CHART

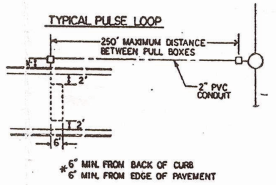
PHASE	Ø2 16	Ø3 478	Ø1 16
MINIMUM GREEN	10 SEC.	7 SEC.	7 SEC.
PASSAGE/GAP	2 SEC.	2 SEC.	1 SEC.
YELLOW CLEARANCE	4.5 SEC.	5.0 SEC.	4.0 SEC.
RED CLEARANCE	1.5 SEC.	1.3 SEC.	1.0 SEC.
MAX. 1	45 SEC.	20 SEC.	15 SEC.
MAX. 2	SEC.	SEC.	SEC.
RECALL POSITION	MIN. RECALL	NONE	NONE
VEHICLE CALL MEMORY	LOCK	NONLOCK	NONLOCK

STOP BARS AS SHOWN ON WASH/CO. GIS



LOOP INSTALLATION CHART

	LOOP NO.	SIZE	TURNS	DIST. FROM STOPBAR	FUNCTION	ATTACHED TO AMPLIFIER NO.	SPECIAL FEATURES	AMPLIFIER TIMING DELAY/STRETCH	LOOP DETECTOR STATUS
2B	1	6' X 32'	2	90'	Ø 2	1	———	— SEC.	NEW
6B	2	6' X 32'	2	90'	Ø 2	1	———	— SEC.	NEW
2A	3	6' X 20'	2	330'	Ø 2	2	STRETCH	2 SEC.	NEW
6A	4	6' X 20'	2	330'	Ø 2	2	STRETCH	2 SEC.	NEW
1A	5	6' X ~~60'~~	2-~~4~~-2	+5'	Ø 1	3	———	— SEC.	NEW
8A	6	6' X ~~60'~~	2-~~4~~-2	+5'	Ø 3	4	———	— SEC.	NEW
8B	7	6' X ~~60'~~	2-~~4~~2	+5'	Ø 3	4	———	— SEC.	NEW
4A 4B	8, 9	6' X ~~60'~~	2-~~4~~2	+5'	Ø 3	5	———	— SEC.	NEW
		6' X						SEC.	



NORTH CAROLINA PROFESSIONAL SEAL 11543 ENGINEER GEORGE G. MURR, JR.

8/28/90

NEW INSTALLATION

US 301 AND SR 1516 AND PLANT ENTRANCE AT CONSOLIDATED DIESEL COMPANY

DIV 04 NASH CO. S.OF WHITAKERS

SCALE	1" = 50'
DATE	7 1990
DWG. BY	M B
DESIGN BY	M B
APPROVED	

N C DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
TRAFFIC ENGINEERING BRANCH

REVISIONS

S/C INV. NO. 04 — 469

2070 EQUIPMENT INFORMATION

(Circle or fill in information)

CABINET MANUFACTURER	(McCAIN) EAGLE SAFETRAN PHILLIPS/SISSON TEMPLE
CONTROLLER	(EAGLE) ECONOLITE SAFETRAN NAZTEC
CABINET / (MODEL #)	M11469
SOFTWARE	ECONOLITE (OASIS) / OTHER_____
CABINET MOUNT	(BASE) / POLE
OUTPUT FILE POSITIONS	12 / 18(12-STD. 6-AUX)
LOAD SWITCHES USED	LS1, LS2, LS4, LS6, LS8
PHASES USED	1, 2, 4, 6, 8
OVERLAP A:	OVERLAP B: OVERLAP C: OVERLAP D:
CABINET PRINT	YES / NO , DRAWING NUMBER_____
EXISTING ELECTRICAL DETAIL	YES / NO
AUX. DEVICES (GPS, MICROWAVE, ...)	

2070 PLAN OF RECORD

RECORDED BY Steven Hoag

TIME AND DATE Feb 5 09

SIGNAL INVENTORY NUMBER 04-0469

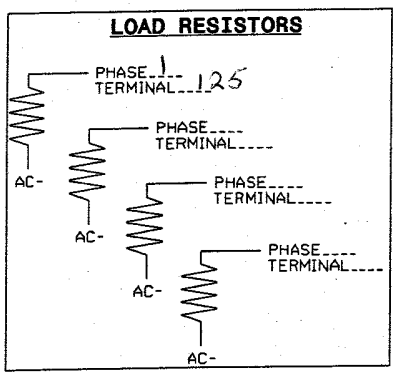
INTERSECTION US 301 @ SR 1516 and Plant Ent. Consolidated

DIVISION 4 COUNTY Nash CITY Whitakers

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S2P	S3	S4	S4P	S5	S6	S6P	S7	S8	S8P	S9	S10	S11	S12	S13	S14
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	22	1,11			4,44			2			3,33							
RED		128			101			134			107							
YELLOW		129			102			135			108							
GREEN		130			103			136			109							
RED ARROW																		
YELLOW ARROW	126																	
GREEN ARROW	127																	

LOAD RESISTORS



BACK UP PROTECTION FOR 21 PROGRAMMED

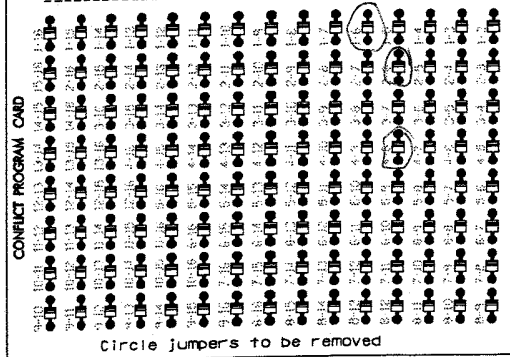
INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1A	TB2 1-2	I1U	1	Y	Y			15
		I1L		Y	Y			
2A	TB2-5,6	I2U	2	Y	Y		2.0	
2B	TB2-7,8	I2L	2	Y	Y			
		I3U		Y	Y			
		I3L		Y	Y			
		I4U		Y	Y			
		I4L		Y	Y			
		I5U		Y	Y			
		I5L		Y	Y			
4A	TB4-9,10	I6U	4	Y	Y			3
4B	TB4-11,12	I6L	4	Y	Y			15
		I7U		Y	Y			
		I7L		Y	Y			
		I8U		Y	Y			
		I8L		Y	Y			
		I9U		Y	Y			
		I9L		Y	Y			
		J1U		Y	Y			
		J1L		Y	Y			
6A	TB3-5,6	J2U	6	Y	Y		2.0	
6B	TB3-7,8	J2L	6	Y	Y			
		J3U		Y	Y			
		J3L		Y	Y			
		J4U		Y	Y			
		J4L		Y	Y			
		J5U		Y	Y			
		J5L		Y	Y			
8A	TB5-9,10	J6U	8	Y	Y			
8B	TB5-11,12	J6L	8	Y	Y			5
		J7U		Y	Y			
		J7L		Y	Y			
		J8U		Y	Y			
		J8L		Y	Y			
		J9U		Y	Y			
		J9L		Y	Y			

PED PUSH BUTTONS	LOOP TERMINAL	INPUT FILE POS.	DETECTOR NO.	NEMA PHASE
		I2U	PED 2	
		I4L	PED 4	
		I5U	PED 5	
		I2L	PED 6	

CONFLICT MONITOR MODEL # 2010 ECL 040802724 HCK

Remove diode jumpers 1-6, 2-6, 4-8



Circle jumpers to be removed

Circle switch positions
Ex. If Phase 1 switch is on PHASE SWITCH 1 OFF / ON

PHASE SWITCH

1	OFF / ON	
2	OFF / ON	
3	OFF / ON	
4	OFF / ON	
5	OFF / ON	
6	OFF / ON	
7	OFF / ON	
8	OFF / ON	
9	OFF / ON	
10	OFF / ON	
11	OFF / ON	
12	OFF / ON	
13	OFF / ON	
14	OFF / ON	
15	OFF / ON	
16	OFF / ON	

OPTIONS

OFF / ON	RF 2010
OFF / ON	RP DISABLE
OFF / ON	WD 1.0 SEC
OFF / ON	GY ENABLE
OFF / ON	POLARITY
OFF / ON	YEL TIME-1
OFF / ON	YEL TIME-2
OFF / ON	YEL TIME-3